



REMARKS

In the claims, claims 1, 3, 6-8 and 10-26 have been amended to more accurately define Appellant's invention. Claims 2, 4, 5 and 9 have been cancelled. New claims 39 to 45 have been added. A check in the amount of \$175.00 is enclosed to cover the fee.

The Examiner rejected claims 1-8, 10-13, 27-30 and 33 as being anticipated by US 5,793,365. Applicant respectfully traverses the rejection of these claims in view of the US 5,793,365 for the following reasons.

The present invention is directed to a system for sending and receiving information. The system includes a server, one or more senders and a plurality of receivers. There is a communication means for the server to communicate with the sender and the receivers. The protocol used for the receivers and server communications consists essentially of http, https, httpdav or any other variant of the http protocol. Each receiver initiates a request which is transmitted to the server, and in the event the server does not immediately reply to the request with information for the receiver, the server retains the request in a pending state until a time when said server receives information from the sender and the server responds to the request with information for one or more of the receivers. At such time as the server responds to the request, the server allows for the completion of one or more previously issued receiver requests with the information.

The present invention solves a major problem in the Internet (messaging over http) called "push". That is, the claims relate to pushing messages to a browser via http protocol.

The Tang patent is user interface oriented and is focused on the usability aspects of collaboration. The present invention is messaging oriented and describes the kinds of applications that benefit from the underlying message capability, which is the core novelty being claimed. The present invention is concerned with the underlying message interchange that ultimately provides one or more user interface experiences in a browser container. Thus, the user interface of Tang does not teach or suggest Applicant's message interchange that ultimately provides one or more user interface experiences in a browser container. The resulting applications that we claim are enabled by the underlying novel messaging capabilities as set forth in claim 1. The applications can be implemented using different technology but not in a browser container, without any specialized installed applications or executables. The messaging technique describe in Applicant's invention uniquely implements "push messaging" over http type protocols while not requiring the installation of specialized applications at the receiver other than a browser container, such as Netscape Navigator or Microsoft Internet Explorer. As described in the present patent application:

"The invention described herein does not require end user computers to contain additional software components (e.g., plug-ins, ActiveX controls) other than that which is obtained with a standard browser. Furthermore, it does not require the use of software component controls that may be automatically downloaded from the web server when the web page is hit (e.g., Java Applets, ActiveX controls). The invention includes for real-time messaging over the Internet without requiring such problematic, inefficient and costly mechanisms."

This capability to do "push messaging" without requiring specialized executables at the receiver is a result of the technique used to hold pending request messages until data is available at the sender to be provided to the receivers. This benefit is an outcome of the unique technique

described in claim 1. Tang describes collaboration but does not describe or suggest the underlying messaging techniques, as is distinguished in claim 1 of this patent application.

The examiner references column 12, lines 40-47 which describes the object request broker, and contends that this anticipates claim 1. A fundamental difference between the present application and Tang is that if a client is provided a reference to an object on a server via the Object Request Broker as explained in Tang, the client must make an explicit request to the object to get the information that the object holds and that is pending for the client. This later part is not explicitly articulated in Tang but it is certainly understood by those skilled in the art. This amounts to the client software "polling" the server object requesting the "new" data for the particular client from the server. In the present invention, the client does not have to explicitly request an update from the server object, but is asynchronously provided any updated data from the server to the client (pushed) whenever there is data on the server that is to be sent to the client.

The current invention is based on a concept that interaction between two parties, namely receivers and one or more senders, in the computer network may be indirect and conducted through a third party. Such situations may arise in many applications where, for example, a third party accumulates requests from receivers and responses from senders and simply distributes available answers to receivers. More particularly, the current invention is directed to a system where a receiver makes a request not directly to the sender, but to a third party which in current invention may be embodied as a server. In another embodiment the server may be paired with an event mediator. Such intermediary positioned combination of server and

event mediator functions to sort out requests from various receivers based on the identity of such receivers and nature of the requests and to store pending requests from receivers if the information necessary to answer to such requests is not available at server yet, although, if upon receiving the request from the receiver, the information at the server is available because it has been already submitted by the sender, such information would be directed to the receiver. When information is requested by a receiver and when such information is not readily available at server, an event mediator which is directly connected to a server may keep the request as pending. When the sender furnishes the server with the information requested by the receiver or receivers, the event mediator recognizes the character and nature of the information received and the identity of the receiver or receivers that requested such information and furnishes such receiver or receivers with such information. Hence, the current invention allows a server, in conjunction with an event mediator, to retain incoming inquiries from various receivers before the inquired information is submitted by a sender; sort out such inquiries based on the identity of receiver or receivers and based on the distinctiveness of the requested information, and to automatically deliver such information to the receiver or receivers when such requested information arrives to the server from the sender. The current invention includes application to the HTTP protocol and all its variants in which the receiver always initiates the requested interaction with the server, not with the sender, and where the server does not deliver a response message to the receiver without first receiving a request from the receiver. Again, if the information is not available yet at the server either by itself or paired with the event mediator, such information will be stored at the server and distributed to the requesting receiver once such

information is available at the server from the sender.

US 5,793,365 to Tang relied on by the Examiner is directed to a computer network where communication between various users of such network is through interactive computer screens and where messages from participating users are transmitted through communication servers and redirected further to other users. Although US 5,793,365 involves third party as an intermediary between communicating parties, the function, nature and principle of work of such third party is completely different from that of server either by itself or coupled with event mediator that embodied in the present application. In fact, US 5,793,365 relates to the worker's gallery window displayed in a computer screen that shows a visual representation of selected members of the workgroup. In other words, the invention embodied in US 5,793,365 is basically an improved chat room where every icon on the user's computer represents a person with files or any other documentation attached to such icon and where such documentation may be retrieved from such user. The intermediary element embodied in US 5,793,365 may consist of several elements. These elements are communication server, gallery window, gallery engine, activity manager, and object request broker. Combined, they represent an intermediary party that according to the US 5,793,365 provides communication between interacting parties. None of these elements, either individually or taken together, function in a same way that the server does according to the present invention.

In accordance with US 5,793,365, users may store and share documents, files etc., that are typically related to the same topic of discussion in the chat room. This would allow a workgroup to conventionally transfer and share information, to determine the level of the

particular user's activity and so on. Users in Tang do not have to search for any additional means of communication once first communication is established. For example, if visual or audio communication is established, there is no need to send e-mails to establish communication to transfer documents, and once initial communication was established, all information may be exchanged and/or sent through the window of gallery. Or, as another example, the window gallery allows user through "cut" and "paste" operation to participate in the exchange of the data, files, objects etc. It may allow the user to establish the topic of the conversation between other users and decide whether to engage into conversation. The system uses communication server paired with gallery mechanism which selects the communication method. The operational system of the invention consists of a number of computers connected into a network where each computer is dedicated to a single worker. Each computer has a network interface, through which it is connected to the network, coupled with directory services, chat room database etc. The data that identifies the user is structured and kept at each such user's computer that US 5,793,365 embodied as the end user. Each user, through a gallery engine, according to the Tang patent, makes a request to each other user. At the same time, a gallery engine provides gallery window with information about participating and inquiring parties as icons. Thus a gallery engine is an intermediate party that merely redirects the message received from one party to the other party unlike server and event mediator that retain such information without further distribution.

Another component of the intermediary member in US 5,793,365 to Tang is an object request broker. An object request broker is a device for handling of user's requests. According to the Tang patent, US 5,793,365, an object request broker receives references for different

objects and returns the identity of the objects to the requesting party making the further communication between the requesting party and the object. In other words, the object request broker provides information about the participants of the network communication. Therefore, object request broker, although retaining information about other participants of the network, serves as a database of participants, sending already available information about such participant to the requesting parties.

The third device in Tang that allows communication between computers in the network is a communication server coupled with an activity manager; the latter tracks keyboard, mouse and other elements to determine the status of activity of the computer being used. In order to decide the icon of which party each person wants to be displayed in his or her computer screen, the person object receives the message, which then is redirected to the object broker which in turn identifies the object and retrieves the information associated with the requested object. Then this data is readdressed to the gallery engine which in turn pastes information into the gallery window of the requested party. Then the process is reversed when the requested party contacts the requesting party: the request goes to the gallery window, then to the gallery engine, and then gallery engine invokes the initially requested party through the object request broker. This is a principle of operation of the chat room according to the inventor. The communication between different end users occurs in the following manner. User #1 activates the icon on the screen of his computer that is associated with the User #2. The window gallery contacts with gallery engine, which in turn contacts the communication server. The communication server detects the best way of communication between both users through the information provided by the object

requests broker, and establishes connection between two. It is important to note that in Applicant's invention, the server along with event mediator does not initiate the dialog with the requested party and has a one-way communication nature unlike US 5,793,365 where communication server contacts with both requesting and requested parties.

More precisely, US 5,793,365 indicates that if some information is stored in a computer of one end user, such computer may distribute such information upon request from other end users when:

“...there is a particular person object 75 that is preferably stored on the computer 101 itself, and that is provided to other computers 101 in response to requests for the icon 14 of the worker using such computer 101. The gallery engine 60 makes these requests and thereby holds references to zero or more persons objects 75 at any given time.”

In other words, the information that is requested by other computers is already available and stored in the requested computer and available to requesting end users upon requests. This is contrary to the idea of the current invention where the information is first requested by receiver while such information is not yet available at the event mediator yet, and only be distributed upon the requesting receiver when such information is available at event mediator supplied by the sender. In fact, Tang does not teach or suggest a system for sending and receiving information comprising a server, one or more senders and a plurality of receivers and a communication means for said server to communicate with said sender and said receivers as called for by Applicant's claims. First, there is no teaching or suggestion in Tang that the protocol to be used for the receivers and the server communications consists essentially of http,

https, httpdav or any other variant of the http protocol. Tang also does not teach or suggest a system where each receiver initiates a request which is transmitted to the server, and where, in the event the server does not immediately reply to the request with information for the receiver, the server retains the request in a pending state until a time when the server receives the information from the sender.

The Ellis patent relied on by the Examiner to reject claims 32, 34-38 on the ground of obviousness does not overcome the deficiencies of the Tang patent. Ellis is directed to software for encryption and decryption which is scaleable in the number of simultaneous sessions capable of being processed by a server and in terms of bandwidth between clients and servers. Another aspect of Ellis is that it provides encryption in a distributed network and combines the processing power of all computers connected to the system. These teachings and the other teachings of the patent do not render these claims obvious when combine with Tang for the reasons set forth above.

Applicant also wishes to bring to the Examiner's attention United States Patent No. 5,943,478. PTO Form PTO/SB/08A is enclosed along with the fee. This patent relates to a system for sending real-time (pop-up) messages over the Internet. The patent is very explicit about using multipart MIME sequences over http to "push" messages from a server to a client. The patentees describe it as establishing a back-channel from the server to client. But, when explaining it further, they describe how they use multipart MIME sequences in conjunction with http to have the ability to send a message at any time from a server to a client over the Internet and through a firewall. While the result achieved in Aggrawal is facially similar to what

Applicant's achieve, the underlying method used by the Aggrawal patent and Applicant's invention are different. Applicant does not use multipart MIME sequences. Instead, in Applicant's approach, a client sends an http request message to the server. The server holds the thread or unit of execution until it is provided with a message (typically from another client by way of the server) that it needs to deliver to the client. When it has a message to deliver, it no longer holds the thread, but allows it to process the previously sent request to its natural conclusion finally providing the http response message to the client along with the message that is delivered. In this manner, Applicant's system does not require any binary or executable objects above and beyond what is supported by a typical browser container, namely Javascript. Thus Applicant's system does not require any binary applications to be installed on the client, like ActiveX controls, or Java applets, or plug-ins, or stand alone programs. The multipart MIME type connections required in Aggrawal cannot be implemented with just Javascript at the browser container, but requires more capabilities, such as a browser plug-in, Active X control, Java Applet, or installed program.

Furthermore, the Aggrawal patent is directed to point-to-point communications, whereas Applicant's primarily handles one-to-many communications. That is, a client may send a request to the server intended for a group of other clients. The server receives the message and makes a copy of the message for each of the clients in the group and causes each of the group's client previously pending requests to be replied to, thus delivering the message to all clients in the group of clients. In this way, the messaging technique supports a one to many communication model. Likewise, it also supports a many to many communication model.

Also, the discussion in the Aggarwal of how the system in that patent will work through a firewall does not teach or suggest Applicant's invention. Firewalls can filter and block multi-part mime messages, of which Aggarwal's messaging layer is based. In the messaging technique of the present invention, the system does not rely on multipart mime type messages and thus is less likely to be blocked by firewalls. Applicant's messaging solution's typical traffic pattern looks much like a traditional http request and response interaction. Furthermore, Applicant does not use multipart MIME sequences to provide two-way messaging but relies on holding up previously sent http requests and only responding to the request when some data destined for the client is ready and available on the server to be included with the http response to the client.

The backchannel established in Aggrawal is not the result of a pending request for data message, as is the case in the present invention. It is simply an open pipe for any future communications, whereas the communication mechanism to the receivers in the present invention is the result of a previous request for any messages.

CONCLUSION

For the foregoing reasons Applicant requests reconsideration and allowance of the claims of the application.

Respectfully submitted,



Thomas A. O'Rourke
Reg. No. 27,665
Bodner & O'Rourke
425 Broadhollow Road
Melville, New York 11747
631-249-7500